

CLAIMS

Claim 1. (Currently Amended) A fiber pigtailed assembly for coupling light from an optical fiber to an optical detector comprising means for mounting the optical fiber adjacent to the optical detector, the optical fiber having a beveled end and having a diameter less than the area of a detector surface of the optical detector, so that the light along an optical axis from the beveled end directly impinges on the detector surface, the detector surface being tilted and being rotated about the optical axis with respect to the beveled end to produce essentially zero polarization-dependent responsivity and low back reflection.

Claim 2. (Currently Amended) The fiber pigtailed assembly as recited in claim 1 further comprising means for adaptively adjusting a tilt angle of the detector surface with respect to the beveled end.

Claim 3. (Currently Amended) The fiber pigtailed assembly as recited in claim 1 wherein the mounting means comprises a housing having a fiber holding portion and a detector holding portion coupled together by a connecting portion to form a gap ~~therebetween~~ the fiber and detector holding portions, the fiber holding, detector holding and connecting portions being an integral whole with the optical fiber being mounted in the fiber holding portion so that the beveled end extends into the gap and the optical detector being mounted in the detector holding portion so that the detector surface is adjacent and tilted and rotated with respect to the beveled end.

Claim 4. (Currently Amended) The fiber pigtailed assembly as recited in claim 3 further comprising means for adaptively adjusting a tilt angle of the detector surface with respect to the beveled end.

Claim 5. (Currently Amended) The fiber pigtailed assembly as recited in claim 4 wherein the adaptively adjusting means comprises:

the connection portion being flexible; and

means coupled to the housing for angularly varying the gap to adjust the tilt angle by rotating about a point in the connection portion.

Claim 6. (Original) The fiber pigtailed assembly as recited in claim 5 wherein the angularly varying means comprises a screw threaded through one of the fiber and detector holding portions to contact an opposing surface of the gap such that adjustment of the screw causes the gap to angularly widen.

Claim 7. (Original) The fiber pigtailed assembly as recited in any of claims 1-6 further comprising means for coupling an opposing end of the optical fiber to an external optical fiber with low back reflection and minimum polarization-dependent responsivity.

Claim 8. (Original) The fiber pigtailed assembly as recited in claim 7 wherein the coupling means comprises:

an input ferrule containing an end of the external optical fiber, the end being beveled;

an intermediate ferrule containing an intermediate optical fiber and having beveled ends arranged approximately orthogonal to each other;

an output ferrule containing the opposing end of the optical fiber, the opposing end being beveled; and

means for holding the input, intermediate and output ferrules in position relative to each other so that the respective beveled ends are parallel to each other.

Claim 9. (Original) The fiber pigtailed assembly as recited in claim 8 wherein the holding means further comprises a gap between the input ferrule and the intermediate ferrule when the diameter of the external optical fiber is less than the diameter of the intermediate optical fiber.

Claim 10. (Original) A coupler for coupling a fiber pigtailed assembly to an external optical fiber with low back reflectance and minimum polarization-dependent responsivity comprising:

an input ferrule containing an end of the external optical fiber, the end being beveled;

an intermediate ferrule containing an intermediate optical fiber, the intermediate optical fiber having opposing ends that are beveled in approximately orthogonal planes;

an output ferrule containing a coupling end of an optical fiber of the fiber pigtailed assembly, the coupling end being beveled; and

means for holding the input, intermediate and output ferrules in position relative to each other such that the respective beveled ends are parallel to each other.

Claim 11. (Original) The coupler as recited in claim 10 wherein the holding means further comprises a gap between the input ferrule and the intermediate ferrule when the diameter of the external optical fiber is less than the diameter of the intermediate optical fiber.

Claim 12. (Withdrawn)

Claim 13. (Withdrawn)